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extended attributes

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Phoenix OS/2 Society

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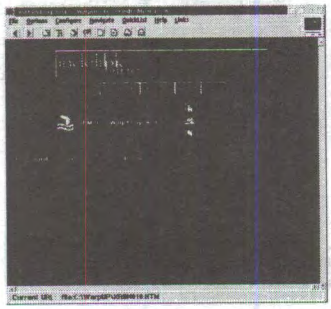
In this issue

keyphrases

Features

Cover concept and mug shots by Bill Schindler.

Departments



Software

Society news

extended attributes is the award winning monthly magazine of the Phoenix OS/2 Society, Inc.

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Construction ahead

by Esther Schindler

.comment

A lot of noise is coming from POSSI's back rooms, these days. With virtual hammers and nails—and plenty of real sweat—we're building a new OS/2 event for all sorts of users.

Even the name is still under discussion, but we've determined several important things. It'll be held Memorial Day Weekend, 2000—yes, a year from now—at the Wigwam Resort in Litchfield Park, west of Phoenix. The Wigwam is an awesome facility, with years of Mobil 5-Diamond ratings to brag about.

The event will focus on the technical side of OS/2. It'll range from developer tools to building a home LAN to connectivity with Linux and mainframe systems. We'll have sessions on building e-commerce sites, on OS/2 internals, and how to make a living as an OS/2-centric business. Of course, the weekend will also include an exhibit hall, so you can check out the latest OS/2 applications—and, if our plans work out, hardware on which you can run them. Plus, because POSSI has earned a reputation for its friendliness and FOOD SIG, you can be sure there will be social activities as well.

Like everything else that the Society does, this is an all-volunteer effort, so we need *you*. Geography isn't important. If you want to help create a bit of history, you can participate (or just lurk) by joining the discussion list. Send an email to `steward@bitranch.com`. The message's only contents—not the subject—should be `subscribe w2k`.

Treasurer of the Sierra Madre no mas

Among the least thankful jobs in any volunteer organization is being the guy who wields the checkbook. He's the one who has to say No to excited board members, and he gets all of the dull tasks with little cheering.

Since POSSI's inception, Stan Hall has quietly managed the user group's fiscal responsibilities. All too often, he's sat in the back of the Mountain Preserve Reception Center, writing checks instead of getting to watch the meeting. For five years, he's paid the bills, sent out invoices, and counted every bean that needed counting. He may not get many cheers, but he's certainly earned our gratitude. Buy him a beer, next time you see him.

However, work responsibilities have overtaken Stan, and he's had to hang up his spreadsheet. Fortunately for POSSI, Mike Willmoth has been willing to take on the treasurer's duties. Mike has years of experience managing the books for other organizations, from investment clubs to science fiction conventions, and his puns are almost as bad as Stan's. We're delighted to have him aboard.

Phoenix OS/2 Society, Inc

The Phoenix OS/2 Society, Inc (POSSI) is an international organization of computer users with an interest in IBM's OS/2 operating system and related issues.

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Letters

Letters to the editor should be sent to editor@possi.org or mailed to the Phoenix OS/2 Society. We reserve the right to edit all letters for content, readability, and length.

.type

I read your editorial with interest. Having been an IBM manager for many years, I know how close you are to the truth. I'd only add a couple of comments to your analysis.

IBM managers are spoon-fed empowerment from their first management school. First line managers feel they can make their own decisions in their area of responsibility. Middle managers are expected to drive their area independently. Sure, budgets have to be kept and upper management has to be informed, but most IBM managers feel they are empowered to make their own decisions in their area. Hence, you have hundreds of independent managers driving IBM.

IBM also deliberately sets up competing groups in IBM that are driving in different directions. This internal competition sharpens the teams and better prepares IBM to compete outside the company. Who knows which technology faction will become popular in the long run? Better to set up teams to focus on all factions, so that when the winner becomes clear, you have already prepared for that direction. To the outside world, this looks like total chaos, but it is a deliberate action on the part of IBM.

I enjoy reading extended attributes. Keep up the good work.

Gene Barlow
User Group Relations
www.ugr.com

Search for oldest PC

Winner will receive computer equipment for the new millennium

press release

To celebrate National Small Business Week, Dell Computer Corporation will launch a nationwide search for the oldest PC still in use by a small business. Dell will award the winning small business $15,000 in free, new computer equipment and donate the small business' old PC to The Computer Museum of America in La Mesa, California.

Prize

The winning small business will receive a Dell server, and a combination of built-to-order Dell desktop and notebook PCs installed with up-to-date software—a prize package valued at $15,000.

How

U.S. small businesses with fewer than 400 employees are eligible (excluding small businesses in Arizona), and can obtain an entry form and a copy of the contest rules at Dell's Web site, www.dell.com/smallbiz/oldestpc, or by calling 877-572-DELL. All entries must be postmarked no later than July 19, 1999. No purchase is necessary to enter the contest.

Winner selection

The winner will be based on submission of the entry form and proof of old PC's date-of-purchase. A 100-word summary that completes the phrase, "My computer is so old it belongs in a museum..." must also be submitted. Proof of purchase can include the purchase receipt, a copy of the computer equipment's expired warranty card or other verifiable proof of age. In the event of a tie, a panel of computer-history experts, selected by Dell, will review the 100-word summaries to determine the PC that most belongs in a museum.

Background

National Small Business Week, May 23-29, 1999, is a week designated by the President of the United States to recognize the small business community's contributions to the American economy and society. In addition, this year generally is considered the 25th anniversary of the PC. The first PC was marketed as a kit through Popular Electronics magazine mailed to subscribers in December 1974.

Linux as a file and print server for OS/2

Making Linux and OS/2 work well together on small networks

by Douglas F. Yriart

feature

OS/2 Warp 4 includes peer network services that can be used for file and printer sharing. While these services are very handy, they don't provide the administration or security services that office users require. Office users typically need a single repository to store and find files.

Larger organizations might use OS/2 Warp Server, Novell NetWare, or Windows NT Server to provide centrally administered file and print services. They work well, but are expensive for small offices or home LANs.

Why Linux?

Linux is an inexpensive alternative. Linux is a free (or very inexpensive) version of UNIX. A Linux application called Samba can provide file and print services. Samba can service not only OS/2 workstations, but also Windows NT, Windows 95 and 98, and even Windows 3.1 for Workgroups. Samba, like most Linux applications, is delivered in various binary packages and as source code.

Both OS/2 and Windows use Server Message Block (SMB) protocols for file and print services. Samba is an SMB server that runs under Linux and other UNIX versions.

To use Samba on Linux to provide LAN file and print services for OS/2 workstations, two things are necessary. The OS/2 workstations must run Warp 4 or Warp Connect, with peer networking and TCP/IP installed. The server needs Linux kernel 2.0.36 or later to support Samba 2.x. (It's possible to serve OS/2 with Samba 1.x, but it's harder to set up.)

This article focuses on configuring OS/2 Warp 4, Linux, and Samba 2 to work together. Installing Samba on Linux and basic Linux TCP/IP configuration is beyond our scope.

For additional information or clarification on the topics discussed here, consult the online books in the **Tasks** and **Reference and Commands** folders in the **Information** folder of the **OS/2 Assistance Center**, normally found on Warp 4's desktop. For Samba, you will find lots of information in the many files in the samba directory under /usr/doc. You can also find additional assistance and tips, especially for getting Samba and OS/2 to work together, from links at `www.samba.org`.

Getting OS/2 set up, first

SMB networking in an OS/2 and Windows network uses the NETBIOS protocol, also known as NETBEUI in the Windows world. Linux does not support NETBIOS directly. NETBIOS can be carried by TCP/IP. On Linux, NETBIOS services are provided by Samba. On OS/2, NETBIOS over TCP/IP is configured using MPTS (in the OS/2 System Setup folder). MPTS is also used to install your network interface card (NIC) driver and TCP/IP protocol.

Before you install Samba and connect your OS/2 system to the Samba server, ensure that your network is up and running, and that TCP/IP is correctly installed. You need TCP/IP name resolution, either from a Domain Name Service (DNS) or through local "hosts" files, if the network is small. TCP/IP is working properly if you can ping the Linux machine from OS/2 by host name, and vice versa.

While you install Warp's peer networking services, remember to give your machine a "Computer Name" and "Workgroup" name (called "Primary Domain" in some panels). To avoid problems, these names should contain no spaces, and should be 12 or fewer characters long.

Once TCP/IP is correctly installed, use MPTS to install NETBIOS and NETBIOS over TCP/IP on your OS/2 machine. The NETBIOS protocol goes with the same network adapter number to which TCP/IP is assigned. NETBIOS over OS/2 must be assigned to a different logical network adapter number. MPTS automatically recommends a number. MPTS creates entries in \IBMLAN\IBMLAN.INI, a text file.

MPTS appears to have a bug that may cause it to put incorrect or mangled information in IBMLAN.INI when you configure NETBIOS over TCP/IP. After you run MPTS inspect (and possibly edit) IBMLAN.INI. The file is divided into sections with names in square brackets, like Windows INI files.

First, look for the [networks] section, near the top:

```
[networks]
net1 = NETBEUI$,0,LM10,100,150,14
net2 = TCPBEUI$,1,LM10,100,150,14
; This information is read by the redirector at ...
```

On an SMB-based LAN, you need an entry for the NETBEUI protocol. When you add NETBIOS over TCP/IP, you need an additional entry for TCPBEUI. Due to the MPTS bug, you may find the TCPBEUI line either missing, or mangled. To correct the problem, copy the NETBEUI line. Change the net number to "net2" (remember, NETBIOS over TCP/IP was installed to a logical network adapter). Change "NETBEUI$" to "TCPBEUI#". If your OS/2 workstation has multiple network adapters, the net numbers will be different.

Next, find the [requester] section of IBMLAN.INI. This section of the file is very long, with many lines of comments. At the end of the section you will find something like this:

```
wrknets = NET1,NET2
wrkservices = MESSENGER,PEER
Computername = BRUISEROS2
Domain = IBMPEERS
```

The "wrknets" entry may be missing the net number you assigned to TCPBEUI. If so, add it to the line, with a comma

to separate the entry from the previous one. Notice that your peer computer name and domain (workgroup name) appear here.

Continue through the file to the [peer] section. This section is also very long. Toward the end you will find text like this:

```
srvheuristics = 11110141111311001331l
SRVSERVICES =
srvnets = NET1,NET2
```

The TCPBEUI net number for the "srvnets" entry may be missing here. If so, add it. Save \IBMLAN\IBMLAN.INI.

Now, we're ready for Linux

Once you install Samba on your Linux host, you'll be ready to configure Samba, and each of your OS/2 workstations, to communicate with the Samba server.

Samba's configuration is stored in `/etc/smb.conf`. Like most Linux and UNIX configuration files, smb.conf is a text file that can be edited with any text editor. With Samba 2.x, there is an easier way. If your Linux host has a Web server running, you can use the Web-based Samba Web Administration Tool (SWAT). SWAT is a moderately secure application that listens for http packets on TCP/IP port 901, rather than the standard http port 80.

To start SWAT locally on your Linux host, point your browser to `http://localhost:901/`—the trailing slash is required. Across your LAN, you can invoke SWAT by using the name or IP address of your Linux host instead of **localhost**. Until you set up additional Samba administration accounts, you must log in to swat as **root**. The SWAT Home page displayed has links to HTML help files and Samba documentation. You'll find more documentation in `/usr/doc/samba###` (where `###` is the Samba version).

Clicking the **Globals** icon at the top of the page takes you to a form from which you can configure global variables in `/etc/smb.conf`. When you're done changing things, click on **Commit Changes**. You can use most of the form's default values, so we'll focus only on the entries to which you need to pay attention.

First, in the base options:

- Workgroup: Enter your workgroup (domain) name here.
- NETBIOS name: Give your Linux host a name. It can be the same as the machine's TCP/IP host name, but it doesn't have to be. To avoid problems, use a name with 12 characters or fewer. Don't use special characters or blanks.

You should not need to make any changes to the other two entries in this section.

Security options:

- Security: Set this to "User." Share level security can become an administration problem, and may also cause problems with Windows NT machines on your LAN. The other options are more appropriate for large networks.
- Encrypt passwords: When Warp 4 and other SMB hosts attempt to connect to each other, they negotiate authentication. If both sides can use encrypted passwords, they exchange security tokens instead of login id and password. Using encrypted passwords in Samba requires several steps to create an encrypted password file. Set encrypted passwords to "No" unless your environment is high risk.

(If your network has Windows 98 workstations or Windows NT 4.0 workstations with SP3 or higher applied, Windows will use only encrypted passwords. Samba's documentation files discuss how to disable this.)

- "smb passwd file": The Samba documentation names the encrypted password file `/usr/local/private/smbpasswd`. Red Hat's Samba distribution has a different default path. If you have password trouble, put your smbpasswd file where you want it, and put the path in this configuration field.

You should be able to take the defaults on the rest of the security options, and also on the Logging Options.

In Tuning Options, set "Socket Options" to TCP_NODELAY. For your Samba server to appear in Warp's File and Print Client Resource Browser folder in the Network folder of the Connections folder, you may need to experiment with various Browse options. A common problem is that the server does not appear in the File and Print Client Resource Browser, although the server is visible to the NET VIEW command.

- OS Level: In SMB type networks, the hosts compete to become the "master browser" supplying information about network resources to other hosts. When an OS/2 system isn't the master browser, you'll stand a better chance of having the Samba server appear in your File and Print Client Resource Browser folder. Try 65 in this field, to start with.
- LM Announce: Set to True.
- LM Interval: Try various values here, starting with 15 seconds. Be careful with this entry. NETBIOS is a very chatty protocol. Every host constantly announces itself on the network. If you set LM Interval too low, your Samba server will be so busy announcing itself that it will saturate the network with broadcasts, reducing the real traffic that goes through.
- Preferred Master: Set to No. You should not need to change setting unless there is a Warp or NT Server in your network.
- Local Master: Set to Yes. This setting works in coordination with OS Level.
- Domain Master: Set to No. This is also used when you want Samba to play with the big boys in a network with Warp Server and NT Server. Samba Server 2.x can function as a Primary Domain Controller in an NT Server network.

WINS is the Windows TCP/IP name resolution service. You don't want WINS enabled with Warp computers in the network.

So much for the basics

This completes the basic configuration for Samba to serve files and provide print services to OS/2 and Windows workstations.

If you set up user accounts for your users under Linux on your Linux host, Samba will automatically serve them up when a user attempts to connect to the Samba server from the File and Print Client Resource

continued on page 13

Warped networks

.two warped

by David Both

In this continuing series on networking with Warp, I discuss network services and how they work.

This time, I start with client services; next month, I'll discuss server services.

Network services are a group of programs that provide specific network functionality for clients and servers. The services installed and configured on a particular system determine its functionality in the network. It is not necessary to have all services installed.

Some functions differ between OS/2, LAN Server, and Warp Server. For example, Warp Connect's Peer service is different from Warp 4.

Four network services are found in client systems. Three of them—the Requester, the Messenger, and the Replicator—are also in OS/2 servers. One, the Peer service, is found only on requester (client) systems.

Requester service

The Requester service is the basis for network functionality. The server cannot be run unless the requester is started. If the requester is terminated, the server is automatically terminated as well. The requester must be loaded on all OS/2 requesters and servers. If the requester is stopped, all other network services are stopped, too.

The Requester service redirects requests from the client computer for files, printers, and serial device resources that reside on a server. The client system's operating system "thinks" that all the devices are attached locally. In reality, the requester redirects the requests for access to those devices to the network. As a result of this OS transparency, as far as the client system is concerned, the device *is* local.

Messenger service

The Messenger service provides network messaging functions. This isn't e-mail; messages aren't stored and forwarded. Recipients must be logged on to receive messages. No error's returned if the message isn't delivered.

The Messenger feature is useful for sending warning messages, such as "log off, as the server is being shut down." Other messages are generated when print jobs sent to a network printer are completed.

The Messenger service is extremely useful for administrators. Server events can be configured to send administrators messages about significant events. For example, the UPS service can send a message saying that power failed and that the server is on battery power. Messages can also be generated when a user's file storage limit on the server is nearing maximum, and for many other events.

Replicator service

The Replicator service can copy key files and subdirectories from a server to another server or to a requester. The Replicator service is installed with Warp Server and Warp network clients, but must be configured to become operational.

The Replicator service requires two systems: one as an importer, and the second as an exporter. Servers can be importers or exporters, but a requester can be only an importer.

When configured, the Replicator service replicates specific files and/or directories from the exporter to the importer. While the service is active, the importer monitors the exporter system for new or changed files. New or altered files are copied from the exporter to the importer.

The Replicator service can be used to provide a form of continuous file backup, when full fault tolerance is not required. The Replicator service is optional. It can be stopped, started, paused, and restarted by the administrator as required. These actions can be performed from the command line or from the Administrator's GUI.

Peer Service

Peer services enable requester systems to share files, directories, printers, and serial devices with other users on the network. This service does not make the requester into a server, and many advantages of a full server are not available. It is, however, useful for implementing small networks, when you don't need a full server and when cost considerations prohibit a full server type network implementation.

A peer with shared resources on the network is called a *Peer server*. If true servers are installed on the network, peer servers do not participate in the domain, which makes administration more difficult.

Warp Servers can be administered from a single computer using the command line or the Administrator's GUI. Peer servera must be administered locally by the user, or the network administrator must go to each Peer server physically to perform the administrative functions.

The local administrator is also responsible for security administration, which can be handled at two levels. User level security is like domain security, where users are created and assigned passwords. User level security requires each user to have an ID and password on each peer server to which she requires access. This can be an overwhelming burden in a large peer network.

Share level security is less burdensome, but it's also less secure. A password is created for the resource and any user

who knows the password may access the resource.

To make things even more interesting, there are two different peer servers. The IBM LAN Server 4.0 requester has a limited Peer service, which only allows a single network user to connect to shared resources at a time. The LS 40 Peer also has no Peer Administration GUI, so it is more difficult to administer.

The Warp 4 LAN Requester contains the converged Peer and Requester functions. They let a local user administer the Peer Server using the Peer Administration GUI, and the network administrator can use the LAN Administration GUI to administer the entire network of LAN servers. The Warp 4 Peer Service also allows multiple network users to use the shared resources of the Peer Server simultaneously. Theoretically, number of users connected to a resource is unlimited, but practical limits are imposed by resource limitations. The adminstrator can also limit the total number of simultaneous connections to each resource.

Due to the administrative burdens imposed by large numbers of peer servers, I strongly recommend that peer networks be limited to ten or twelve computers. When your peer network grows to this size, seriously consider converting to a full Warp Server environment. Using the domain to administer the network becomes much easier than administering a growing number of individual workstations.

David Both can be reached at dboth@millennium-technology.com.

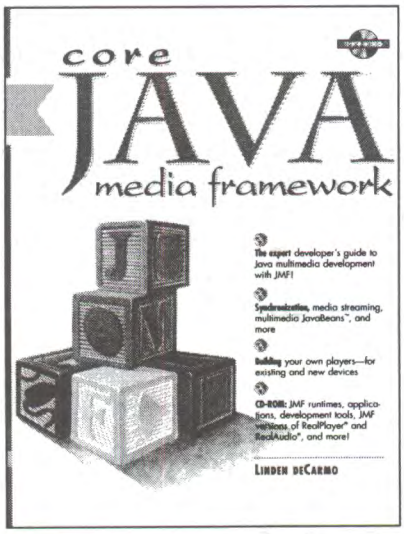
Core JMF

An excerpt from *Java Multimedia Programming*

by Linden deCarmo

feature

[Long-time OS/2 users may recognize Linden deCarmo's name from his years working at IBM on its multimedia engine. We're delighted to have received permission from Prentice Hall to reprint a small part of his brand-new book, Core JMF. As you may imagine, Linden is cognizant of cross-platform Java development issues, and he pulls no punches. Here, he discusses some of Java's challenges. --Ed]



Java is suffering from an identity crisis. Sun originally envisioned Java as a "write once, run anywhere" platform. Developers embraced this philosophy and created programs that—theoretically—were platform-independent. This explosion in developer activity caused companies such as Netscape, Microsoft, and Apple to tune the Java Virtual Machine for their respective hardware and software products. Unfortunately, programmers discovered that their programs ran differently on each VM due to bugs in the VM's implementation or because of vagueness in the Java specification. Hence, the saying "Write once, test everywhere" was born.

The inconsistent behaviors between VMs (not to mention financial realities) have resulted in a shakeout in the VM provider market. Netscape exited the VM market and created an API called the Open Java Interface, which software vendors can use to plug custom VMs into their Navigator. Apple joined with Microsoft to create a unified VM for the Macintosh. As a result, Sun, IBM, and Microsoft are the last major players in the Java VM market for PCs.

These changes should not be considered a slowdown of the Java market. Rather, companies are focusing on their strengths and finding unique niches for their products. Hewlett Packard's (HP's) embedded version of a Java VM has created considerable publicity due to its small footprint. Other vendors have tailored VMs for particular embedded environments or for freeware markets. This activity has not only created VMs for a variety of platforms, but has also ensured that the few PC-based VMs that exist are robust and meet the Java specifications.

Core JMF
$44.99
by Linden deCarmo
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1-800-643-5506

www.prenhall.com

Growing Pains

JMF is also undergoing an identity crisis. Conceived by the powerful triumvirate of Intel, Silicon Graphics, and Sun, its purpose was to enable multiplatform multimedia applications. Each vendor focused on optimizing JMF for its respective operating platforms. Intel dedicated their efforts to enabling JMF on the Win32 platforms (Windows 9x and Windows NT), Sun concentrated on Solaris, and Silicon Graphics owned the IRIX development.

The first public draft of JMF documentation was made available for external comments in February 1997 (see `http://java.sun.com/products/java-media/mail-archive /Framework/0001.html`). Shortly thereafter, Intel released the first JMF runtimes for Win32. Sun and Silicon Graphics soon followed with beta implementations for their platforms.

The final JMF specification was frozen in September 1997 (see `http://java.sun.com/products/java-media/mail-archive /Framework/0440.html`). Intel was once again the first to ship a runtime for Win32 based on this platform. Sun released its 1.0 version of Java in April 1998 (see `http://java.sun.com/products/java-media/mail-archive /Framework/1125.html`).

Unfortunately, even before the final release of the JMF specification, signs of trouble were brewing in the JMF family. Each company had its own agenda for developing JMF runtimes. Silicon Graphics wanted to maintain its dominant position in the high-end graphics and multimedia markets. Intel needed to ensure that JMF was optimized for MMX™ in general, and the Pentium II in particular, so that they could sell processors. Sun needed to promote a cross-platform multimedia environment that could effectively compete with the Microsoft Windows monopoly and would also promote Solaris.

Although Silicon Graphics released a .96 beta version of JMF, development was frozen at that level. Silicon Graphics has been refocusing on core businesses and is unlikely to resume development of this product since they decided to divest themselves of Cosmo, the division responsible for JMF development.

An even bigger shock was unleashed by Intel in July 1998. Intel stated that due to changing Java market conditions, they were exiting JMF development in early 1999. Since Intel's product had earned a reputation for stability and compatibility, many developers on the JMF mailing

lists and newsgroups became distraught about the future of the API.

There are many potential explanations why Intel made this decision. One possible rationale could be extrapolated from a similar decision Intel made in the software DVD market. Intel developed DVD audio and video software decoders that were optimized for the Pentium II processor. Before the product could ship, at least three other companies released equivalent DVD decoders. Since Intel wrote their software to create demand for their processors, and other companies were fulfilling this role, Intel withdrew its products, since their goals were accomplished.

The JMF runtime, like the software DVD product, was released so that the Intel processor had a best-of-breed Java multimedia platform. Because Intel understands the Pentium family processors better than anyone does, they were able to release Pentium optimized versions of JMF before either of their partners. This enabled Win32 running on Intel processors to become the dominant platform for JMF development.

Although many people assumed that Sun would focus on the Solaris version of JMF, the company eventually released a Win32 version. This parallels the evolution of Java VMs on Intel processors. Sun originally relied on Microsoft to create a Win32 Java VM. However, the Wintel market was too important for Sun to be dependent on another company to provide the primary Java VM (especially on a company whose commitment to cross-platform support was dubious at best). Therefore, Sun released their own VM for Win32 and associated browsers.

Sun's Win32 version of the JMF runtime had a similar architectural design as the Intel version and added a few extra features. With Sun supplying high-quality Intel-based Win32 runtimes, one can surmise that Intel no longer felt a pressing need to continue with this product.

Core Tip

Although Sun's Win32 JMF runtime has narrowed the gap between itself and the Intel runtime, it still is not as robust nor as performance-tuned as Intel's solution. If you develop on the Win32 platform and experience strange problems with the Sun alternative, the problems may not be your fault. Therefore, it is advisable to test on both runtimes to separate problems in your application from runtime bugs.

A more sinister explanation for Intel's decision to drop JMF development may be found in the documentation associated with the antitrust case filed by the U.S. Justice Department against Microsoft Corporation. According to CNET:

"in early 1997, one Microsoft executive pinpointed Intel's work on Java multimedia technology as 'the area of most contention [between the two companies] since Intel does not see their work with Sun and others as bad for the overall PC space, only as good for Intel.' Over the coming days, another Microsoft executive continued 'to engage' on the matter, encouraging it to curtail the work, or at the very least to carry it out 'less visibly.'" CNET News.com, September 23, 1998

Based on this documentation, one could logically assume that Intel was forced to drop their JMF runtimes to salvage their relationship with Microsoft. Regardless of Intel's true reason for ceasing Java multimedia development, Sun needed a partner to help it give JMF a sense of legitimacy and true cross-platform capabilities.

Core Tip

Additional background material concerning the conflicts between Microsoft, Sun, and Intel can be found at the following Web sites:

```
http://www.news.com/News/Item/0,4
,26706,00.html?st.ne.ni.lh
http://www.news.com/SpecialFeatures
/0,5,26707,00.html
```

On October 7, 1998, Sun announced that IBM had decided to partner with them to design the JMF 2.0 release. Among the features that IBM and Sun have promised for JMF 2.0 include the ability to capture media and perform real-time signal processing on digital media streams. Additional details on the 2.0 release can be found in Chapter 21.

Examination of JMF Ports

Sun created lofty goals for the JMF API: a cross-platform multimedia platform capable of supporting a variety of media types. To determine if these claims are realistic, we'll need to examine how JMF interacts with existing multimedia environments and look at the robustness of each implementation.

Sun is quite emphatic that it wants Java application developers to write 100% pure Java programs can run on any compliant Java VM. However, this edict has never applied to Java VM developers. When you create a Java VM, the overriding mandate is performance. Therefore, VMs contain large quantities of native code that exploit specific features of a given platform.

Likewise, when you port JMF to a given platform, you must interface the hardware with native code; the only exception to this would be a platform that ran Java as its native language. If the operating environment is already in existence, porting JMF involves interfacing JMF to the existing multimedia infrastructure available on the platform (see Figure 2-1). If the particular platform lacks essential features, it is the responsibility of the programmer porting JMF to compensate for these weaknesses.

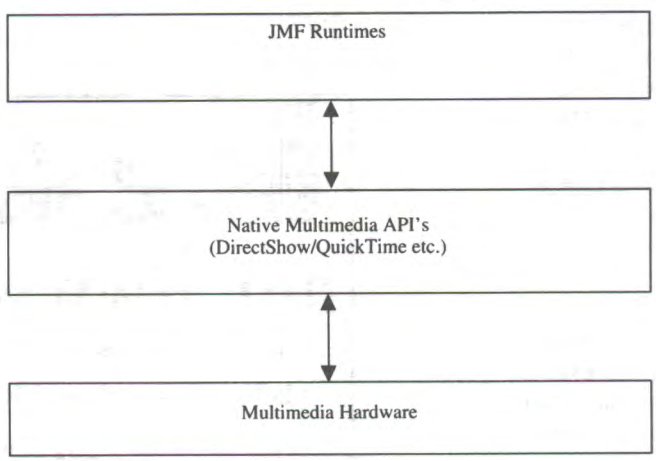


Figure 2–1 Generic block layout for a JMF port.

If the hardware or operating system is still under development, implementing JMF is less problematic. If required features are missing, the infrastructure or associated hardware can be modified, instead of having to hack the ported JMF code. As a result, these newer environments should have more robust and compatible versions of JMF than older platforms. In fact, if the JMF API is used as the native API, performance will improve, since it is unnecessary to map JMF objects to native objects.

Core Tip

Sun has managed to squeeze enough performance out of Java to create a Pure Java JMF runtime in its 1.1 release. Although the Pure Java version is not as feature-rich as the native runtimes, it proves that fast processors and optimized Java runtimes can support Pure Java multimedia. See Chapter 21 for additional information on the Pure Java runtime.

Light hearted

See how an all-OS/2 business works

by Mark Kerzner

Lumature is a lighting and furniture store in Scottsdale that uses OS/2 as the only operating system. In 1994, we installed Warp Connect on all workstations, and shortly afterwards the Novell 3.x server was replaced with OS/2 Warp Server Advanced.

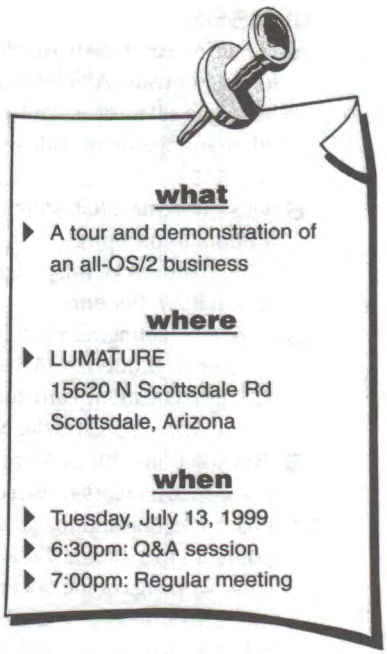
At the July POSSI meeting (Tuesday, July 13), LUMATURE will be opening its doors—including the door to the computer room! See first hand how each and every aspect of this business is run on networked computers running on OS/2 Warp. From point-of-sale workstations, to graphics workstations that create all labels, price tags, and advertisements, to office/accounting computers, you will observe how this well OS/2 can run a business.

But we already know all that, didn't we?

Light fantastic

Experience how every light fixture, table lamp, and wall light in the showroom can be controlled from "virtual" switches created on workstation screens. Using the shareware HOUSE/2, every display fixture can be turned on, off, or dimmed from the showroom computers. Every light can be addressed individually or as a member of a group.

For us, this has proven to be the best method of showroom lighting control ever devised. August 10 will be the first anniversary of the opening of this showroom, and of this new system. Compared to the traditional direct-wiring of each light to a manual wall switch for a showroom this size, our initial savings with this computerized lighting control system was more than $70,000. When you have hundreds of display locations in a commercial building, with very high ceilings, it involves running metal pipe conduit from each fixture to its own wall switch. With many locations, the dollars add up very quickly. See this amazing system and try it yourself !



what

- A tour and demonstration of an all-OS/2 business

where

- LUMATURE
  15620 N Scottsdale Rd
  Scottsdale, Arizona

when

- Tuesday, July 13, 1999
- 6:30pm: Q&A session
- 7:00pm: Regular meeting

When and where

LUMATURE is at 15620 North Scottsdale Rd, north of Greenway and about $^1/_2$ mile south of Bell, on the west side of the street. Using other furniture stores as landmarks, that's north of Robb & Stucky and just south of Thomasville.

Although the LUMATURE showroom closes to the public at 6:00pm, the doors will be open to POSSI meeting attendees, and staff will be there to demonstrate and answer questions. And also—just in case you see some items in the store that you would like to own—ask Mark about special pricing discounts for POSSI members and guests.

Coming events

A list of events scheduled by the Phoenix OS/2 Society and other OS/2 user groups.

history

July 1999

July						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

5 Magazine submission deadline for August issue. Articles should be sent to `editor@possi.org`. For other arrangements, call 480-585-5852.

6 net.sig (Internet SIG). Meeting is 6:00pm to 8:00pm. Coordinator Mike Briggs. Location: KDC, 2999 N 44th St, 4th floor, Phoenix.

13 General meeting; OS/2 in small business. Meeting is 7:00pm to 9:00pm. Q&A session is 6:30pm to 7:00pm. Location: Lumature, Scottsdale Road (north of Greenway), Scottsdale. *Note different location!*

19 IBM Solutions '99, Las Vegas, NV. (Not a POSSI event.) See `www.solutions99.ibm.com` for signup details.

24 Board meeting and magazine prep. Meeting is 10:00am to 1:00pm. Eat a brunch, learn about the inner workings of the Society, and help get extended attributes ready to mail. Location: Bill and Esther Schindler's house in north Scottsdale, 9355 E Mark Lane. Call 480-585-5852 or send email to `esther@bitranch.com` for directions.

August 1999

August						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

3 net.sig (Internet SIG). Meeting is 6:00pm to 8:00pm. Coordinator Mike Briggs. Location: KDC, 2999 N 44th St, 4th floor, Phoenix.

5 Magazine submission deadline for September issue. Articles should be sent to `editor@possi.org`. For other arrangements, call 602-585-5852.

14 FOOBAR (Friends Of OS/2 Barbeque And Revelry), celebrating POSSI's 5th anniversary. Location: Robert "Rosey" Rosenwald's house. Details to follow.

28 Board meeting and magazine prep.

September 1999

September						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

5 Magazine submission deadline for October issue. Articles should be sent to `editor@possi.org`. For other arrangements, call 602-585-5852.

7 net.sig (Internet SIG). Meeting is 6:00pm to 8:00pm. Coordinator Mike Briggs. Location: KDC, 2999 N 44th St, 4th floor, Phoenix.

14 General meeting; iTool, a Web-based application to create your own e-commerce site. Meeting is 7:00pm to 9:00pm. Q&A session is 6:30pm to 7:00pm. Location: Mountain Preserve Reception Center, 1431 East Dunlap, Phoenix.

25 Board meeting and magazine prep.

October 1999

October						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

5 net.sig (Internet SIG). Meeting is 6:00pm to 8:00pm. Coordinator Mike Briggs. Location: KDC, 2999 N 44th St, 4th floor, Phoenix.

5 Magazine submission deadline for November issue. Articles should be sent to `editor@possi.org`. For other arrangements, call 602-585-5852.

12 General meeting. Meeting is 7:00pm to 9:00pm. Q&A session is 6:30pm to 7:00pm. Location: Mountain Preserve Reception Center, 1431 East Dunlap, Phoenix.

23 Board meeting and magazine prep.

November 1999

November						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

2 net.sig (Internet SIG). Meeting is 6:00pm to 8:00pm. Coordinator Mike Briggs. Location: KDC, 2999 N 44th St, 4th floor, Phoenix.

5 Magazine submission deadline for December issue. Articles should be sent to `editor@possi.org`. For other arrangements, call 602-585-5852.

9 General meeting. Meeting is 7:00pm to 9:00pm. Q&A session is 6:30pm to 7:00pm. Location: Mountain Preserve Reception Center, 1431 East Dunlap, Phoenix.

27 Board meeting and magazine prep.

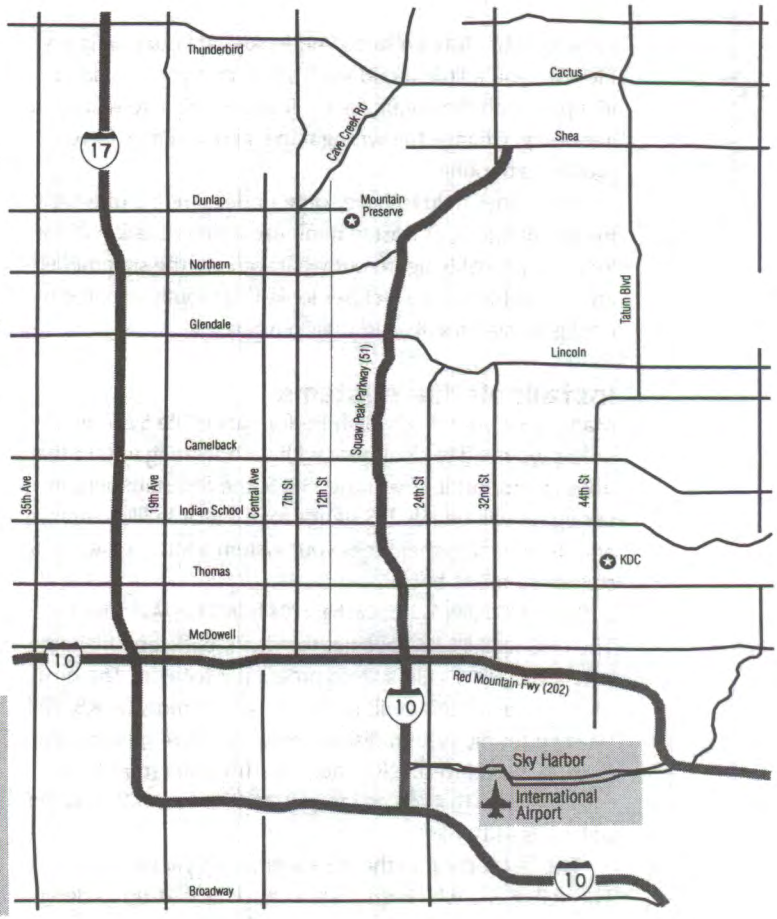
Meeting locations

Directions to meeting locations.

General meetings are held at the Mountain Preserve Reception Center, 1431 East Dunlap, Phoenix.

From the Black Canyon, exit at Dunlap and head east. From the Squaw Peak, exit at Northern. Go west to 12th Street, turn right, go north to Dunlap, turn right, and it's two blocks up on the right.

The "How OS/2 Works General Interest Group" and the Internet SIG (net.sig) meet at Knowledge Development Center, 2999 N 44th St, Suite 400. That's just north of Thomas, in the building with the green dome. Plenty of free parking is available in the garage behind the building.



If the mailing label on the back cover says "sample" then this may be the only copy of extended attributes that you will ever receive. If you want to keep getting the magazine (and receive all the other benefits of membership), you must join! A 12 month membership in the USA is only $30. (See the form for membership pricing in other areas.) Tear out the application, fill it in, and mail it with your membership fee today!

continued from page 5

Browser. The OS/2 peer network user ID must be the same as the user ID on the Linux account for the default sharing configuration to work. If possible, the Linux and OS/2 passwords should also be the same.

Samba's default configuration automatically exposes all print queues on the Samba server, so they appear in OS/2's File and Print Client Resource Browser.

Just one more thing...

Before you can use your newly configured Samba server, there is one more area to configure. Because you're using NETBIOS over TCP/IP, you need a means to resolve NETBIOS names to IP addresses, in addition to TCP/IP name resolution. NETBIOS name resolution can be tied to Domain Name Service. On small LANs, this is difficult to configure and not worth the effort.

OS/2 lets you resolve NETBIOS names through a file called LMHOSTS, which follows the same format as the TCP/IP name resolution file \MPTN\ETC\HOSTS. Place your LMHOSTS file in \MPTN\ETC. If you have problems with NETBIOS name resolution, try placing a copy of LMHOSTS in \IBMLAN.

A machine's NETBIOS name need not be the same as its TCP/IP hostname. If the name is different, use the NETBIOS name in LMHOSTS, and the TCP/IP name in \MPTN\ETC\HOSTS.

Samba may also need NETBIOS name resolution assistance. If so, Samba can also use an lmhosts file, which would be stored in /etc on your Linux host.

This completes the basic configuration steps to set up a Samba server on Linux to provide file and print services to OS/2 Warp 4 workstations. The Linux host can print to any printers shared from OS/2 workstations via peer services. Configuring the print queue on the Samba host is beyond the scope of this article.

If you experience difficulties or have questions about this configuration that can't be answered with the copious documentation that comes with Samba, I can try to help you. I hang out in the CompuServe LINUXFORUM, OS2USER, and OS2CNET forums. Address forum messages to Doug Yriart [105374,2265]. Please do not send me email.

Configuring it out

by Marilyn Pizzo

How long has it been since you looked at your config.sys file? Are you a little afraid to? It's true that you shouldn't idly play with the config.sys file if you aren't sure what you are doing. Change the wrong thing, and you may have problems booting up.

But it does help to have some understanding of what's inside config.sys, at least to minimize its intimidation factor. You can probably figure out what some of the statements are for. But let's take a closer look, this month, at some of config.sys statements and their purpose.

Installable file systems

Many of us use OS/2's High Performance File System, unless we need to dual-boot with an operating system that doesn't support it. If you use HPFS, the first statement in config.sys will be IFS. IFS stands for installable file system, and this first statement tells your system a lot. A typical IFS statement might be:

```
IFS=C:\OS2\HPFS.IFS/Cache :2048/CRECL:4/Autocheck:C
```

The C:\OS2\HPFS.IFS specifies the drive, path, and filename where the HPFS's file-system program is located. The next phrase, `/Cache:2048`, tells us how much memory (in KB) will be used for file system disk caching. `/CRECL:4` specifies the maximum record size for caching. This value must be a multiple of 2KB, and can range from 2KB to 64KB, and the default is 4KB

The last section in the IFS statement is `/Autocheck:C`. This tells OS/2 which drive(s) to check at start-up to determine if anything funny happened the last time the computer was shut down. For example, if the power went out and shut the system down, or you didn't select Shutdown before turning off the power, OS/2 will run CHKDSK with the `/F` option to correct the problem.

The next statement in config.sys might be

```
PROTSHELL=C:\OS2\PMSHELL.EXE
```

or something similar. This loads the Program Manager shell, which is the user interface program. After this statement are several SET statements, which are all required. You probably will never have an occasion to change any of them—except one. The SET AUTOSTART statement should not have excess stuff in it. The more things in the AUTOSTART statement, the longer the boot up process. The basic items you may find are TASKLIST, FOLDERS, CONNECTIONS, and WARPCENTER.

PATH of least resistance

The next statement is LIBPATH, which identifies where the computer looks for DLLs (dynamic link libraries). DLLs are files (whose name ends in .DLL) that contain bits of information that programs share among themselves. When an application needs to access one of the DLLs, it goes to the LIBPATH to search through the list of directories. During installation, OS/2 installs a lengthy LIBPATH into config.sys. Removing any of the subdirectories could cause disaster.

As you load additional applications, they may add their own directories to the LIBPATH statement. Your LIBPATH can get very large. Since the paths are searched in the order you see, you can make your system more efficient by making some changes. By moving the paths of lesser used applications to the end of the LIBPATH, you can help your system run faster. Notice that each path is separated by a semicolon. Be careful to move the drive letter, complete path, and the semicolon.

The SET PATH statement is also a lengthy one. PATH searches the specified directories for commands or batch files the system didn't find when it searched the current directory. PATH will only find files that can be run, including COM, EXE, BAT, and CMD. If you enter a command not found in the current directory, the system will search the directories in the PATH statement, in the order they appear. You may want to move the paths of little used applications to the end, being careful to move the entire path along with the semicolon.

The SET DPATH statement indicates in what directories applications should search for their data files, after searching in the current directory first.

BASEDEV accusations

As you notice as you look at config.sys, there are lots of statements. Some make sense, but others might as well be written in a foreign language.

One statement used often is the BASEDEV statement. This installs a base device driver by specifying its complete file name. A *device driver* is a file that contains the code that OS/2 needs to recognize that device and to process the information going to and from the device. A *base device driver* is one that needs to be there when OS/2 is started up. BASEDEV statements allow OS/2 to use fundamental devices such as floppy drives, hard drives, printers, CD-ROMs, and the keyboard. BASEDEV statements are not necessarily processed in the order they appear in config.sys, as some of the other statements were. They are loaded by file name extension in the following order: SYS, BID, VSD, TSD, ADD, I13, FLT, and DMD.

Scattered throughout the config.sys file are DEVICE statements. These load all the other drivers that OS/2 needs to recognize for devices. DEVICE statements are processed in the order they appear. It is amazing how many

things need to be started up just so you can click on an icon and have everything work properly.

BUFFER, the vampire slayer

Somewhere in your config.sys file is the BUFFERS statement. This sets the number of disk buffers that the system uses. A disk buffer is a 512 byte block of storage used by the system to read and write blocks of data that do not occupy an entire sector. The information is read into the buffer and is ready to be processed. As the information is processed, the input device can start reading new bits of information into the buffer.

You can increase the speed of your system by increasing the BUFFERS value, but when you do that you decrease the available memory and cause more memory swapping. So, don't be too hasty to increase BUFFERS. The system will default the value of the BUFFERS at 5; you can increase it to any value up to 100.

You may have seen an error pertaining to the swapper file, SWAPPER.DAT, or have had to change the values indicated in the SWAPPATH statement. The statement specifies the location and size of the swapper file. The file is used to store data segments temporarily that the system removes from physical memory when it gets a request for more memory from an application. In the SWAPPATH statement, you find the path where the swapper file is located and then two numbers. The first number specifies the amount of free space in KB that can remain on the disk before you get a warning. The second number specifies the size of the swapper file initially allocated at installation. This value varies depending on the amount of physical memory installed inside your computer.

A related statement is MEMMAN, which selects storage allocation options for OS/2. MEMMAN controls swapping of memory, and whether programs may access protected memory. Many programs require that access, so it isn't wise to remove the PROTECT parameter.

A thread is a separate executable task. Well-written OS/2 applications contain many threads. Several threads can be ready to execute at the same time, but only one thread at a time has access to a processor. Thus, threads are given priority numbers, to allow critical functions access to the processor when they need it. The thread with the highest priority gets to go first. The system supports as many as 4095 threads, but the default is 64. If the number of threads specified in the THREADS statement is too low, activities that could otherwise be performed at the same time are delayed until more threads become available.

A related statement is MAXWAIT. This statement sets the amount of time a ready-to-run thread must wait before receiving a higher priority. The time depends on the number of running applications and the activities being performed. The system defaults to a three-second delay. You can specify a number from 1 through 255.

CACHE cow

The DISKCACHE statement specifies the number of blocks of storage allocated for control information and disk cache. Part of system storage can be used as an additional hard disk buffer for FAT formatted drives.

Increasing the size of the disk cache speeds up your system, but it also decreases the available memory for other things. Disk cache sizes are based on the amount of memory available in the system and the number of FAT-formatted partitions—not on the disk size. This is represented by D after the = in the DISKCACHE statement. Disk cache is allocated at system start up. The DISKCACHE statement will default at D,LW. D is the size of the disk cache and LW (lazy-write) enables the writing of cache memory during disk idle time. If this parameter is omitted, cache memory is written immediately. An autocheck parameter in the DISKCACHE statement behaves the same as the one in your IFS statement.

The CODEPAGE statement selects which system code pages OS/2 uses. The codepage controls how the computer displays output on the monitor or accepts keyboard input. Different languages use codepages to reflect keyboard conventions, characters shapes, and so-on. The default U.S. codepage is 850 (multilingual) but some applications look for the old US code page (437). Since two code pages can be active at the same time, your CODEPAGE statement may have both 437 and 850. You must include appropriate DEVINFO statements in config.sys for keyboard and video. You'll find two DEVINFO statements. One (KBD), specifies your keyboard layout. The other DEVINFO statement (SCR) is for the display screen.

Two other statements are of interest. The first is the PROTECTONLY statement. This defaults to NO to allow you to run both OS/2 and DOS environments. Changing this to YES prevents DOS sessions from running. Don't change this statement unless you are sure you don't run anything in a DOS session. The other statement, PRIORITY_DISK_IO, specifies disk input/output priority for foreground applications. When set to YES, an application running in the foreground receives disk I/O priority over applications running in the background. If NO is specified, all applications, whether they are in the foreground or background, are treated equally with regard to disk access. Even though you can change the default YES to NO, why would you? Isn't the point of having an application in the foreground while others are taking a back seat so that one application would take priority?

Config.sys is an interesting file. It's a little scary maybe, but not a completely forbidden area. Hopefully, you are now at least curious enough to take a look at your own config.sys file.

Driver watch

New support for your OS/2 hardware

by David Wei, davidwei@cybermail.net

We have some cool drivers, this month, particularly for video and multimedia.

nVidia TNT, TNT2 and Vanta

Rumors? What rumors? It's now official! nVidia released its GRADD-based OS/2 driver, and it is on their Web site—with a cool OS/2 logo, no less.

I highly recommend that, before you attempt to install the driver, you prepare your system as follows:

- If you have not already done so, install FixPak 35 or higher for Warp 3.0, or FixPak 5 or higher for Warp 4.0.
- Install IBM's GRADD package 0.77. Choose VGA GRADD. (Note that this is not standard VGA.) Reboot.
- Now, you can install the driver.

From early SysBench test reports, the nVidia driver seems to operate well. However, it also seems that the driver is incomplete. Some functions get an absolutely pathetic score, while other scores shoot through the roof. Well, this is a big step forward for nVidia, so for the moment let's applaud, not criticize them. `www.nvidia.com/Products.nsf/htmlmedia/software_drivers.html`

S3 Savage 4 driver

S3 promises an OS/2 driver for the new Savage 4 video accelerator chipset. Not much else is known about it, so I'm not sure if it'll be available by the time you read this. However, the datasheet seems to indicate a traditional driver instead of the GRADD driver that everyone seems to be flocking to. Download the datasheet for yourself at `www.s3.com/savage4/savage4ds.pdf`.

ThermoProtect

I'm not sure if ThermoProtect 1.25 can really be classified as a driver, but it does drive hardware devices directly. This version adds support for a GUI interface, which was provided by Dmitry I. Platonoff's small and elegant Pipe Monitor. Besides a GUI interface, modifications also support the additional feature provided by Winbond W83782D chip, like the 5VSB (ATX 5V Stand By power) and a new algorithm for negative voltage on W83782D. To my knowledge, ThermoProtect is the only one that does 5VSB, CMOS battery, and the correct monitoring of negative voltage on OS/2. `www.pcenduser.com/ThermoProtect`

Castlewood Systems' Orb

After years of waiting, Castlewood Systems is releasing its removable 2.2GB Orb drive. The Orb drive uses Magneto Resistive technology, in which the drive head changes resistance when subjected to a magnetic field. The new technology (invented by IBM) is said to boost drive capacity and lower storage price. It's $199 for the drive, and $29.95 for disks. The full monty is available at `www.castlewood.com/castlewood/web/orb_spec.htm`

Creative Labs' Linux support

Creative Labs has apparently decided to support Linux. The good news for OS/2 users is that Linux drivers usually includes source code. Any pros want to take on the challenge of porting it to OS/2?

Currently, only the SB Live! and 3dfx Banshee driver is available directly from Creative Labs. Download it at `http://developer.soundblaster.com/linux`

RSJ CDWriter

This popular commerical CD-R/CD-RW creator program has been updated to 2.79. The latest revision fixes a version muck up in the program, so I assume this is mostly a cosmetic upgrade from V2.78. If you do have an earlier version, the upgrade will provide you with fixes and additional functions. `www.rsj.de/stage/en/cd_os2.htm`

Hauppauge WinCast/TV PCI card

Abbotsbury Software Ltd. has updated its driver for the Hauppauge WinCast/TV PCI to version 1.041L. They've added support for the MSP34XX sound processor, Video-In, and SVideo. Some bugs need to be fixed, but they say they're working on it. Plus, IBM is also working on its WarpTV program as time permits. `www.wdi.co.uk/os2tv/download.htm`.

Crystal Semi sound card chipset

Crystal Semiconductor updated its entire range of OS/2 sound card drivers.

I'm not entirely sure what changed, but from what little I know, it may include a new version of the "Generic WinOS/2 sound driver" for Crystal Semi's chipset. A check on their PCI chipset driver reveals that MIDI is still not supported. Anyone tried to use MPU-401 driver instead on their PCI card with built-in hardware wavetable? You can leech all those files from: `www.cirrus.com/drivers/audiodrv/os2.html`.

Matrox Listens!

Matrox created a feedback forum on its Web site to gather suggestions from users. If you are a Matrox user, and there's something bugging you, let them know! `www.matrox.com/mga/drivers/drvsugg.htm`

OS/2 meets the cable modem

by Ernie Fisch

.info

This is a tale of misery and woe overcome—or how I installed my cable modem under OS/2. Once you succeed, you'll realize just how simple this job should be. Unfortunately, the task is complicated by confusing terminology.

The first thing to do is install the latest MPTS services fixpack, the 16 bit stuff. I got mine off the WarpUp CD.

Cable modems contain 10Base-T Ethernet ports. To connect to the cable modem, your PC must have a 10Base-T network card and have network services running. My cable service comes from Cox, and the Cox people provided and installed a D-Link DFE-530TX network interface card (NIC) in my PC. (This writeup is specific to the D-Link card, but the approach should be similar for other network cards.)

Unfortunately, the card did not come with OS/2 drivers. Fortunately, D-Link's Web site had what they called an OS/2 patch, consisting of the following files: dlkfet.os2, dlkfeti.nif, and protocol.ini. I downloaded these files into a directory on my boot drive. The files can actually be put anywhere it is convenient.

Start an OS/2 command prompt. Key in MPTS. Or, in the System Setup folder, click on **Adapters and Protocols**. Select **configure** then **configure**, making certain that the **LAN Adapters and Protocols** radio button is selected.

At this point, you should be at the Adapter and Protocol Configuration screen. Under Network Adapters, select **Other Adapter**. Enter the directory with the D-Link driver files, and select **OK**. Back at the Adapter and Protocol Configuration screen, scroll through the list of Network Adapters. The D-Link DFE-530TX PCI FAST Ethernet Adapter should be listed. Highlight the selection, and select the **Add** button. It should now appear in the Current Configuration list on the screen. Next, select IBM TCP/IP from the protocols on that screen, and choose **Add**.

You should now have the current configuration:

```
D-Link DFE-530TX PCI FAST Ethernet Adapter
0- IBM TCP/IP
```

Here is where I made a mistake. I had something in here from my original install (I don't know why), and the NIC was associated with the wrong TCP/IP address.

Anyway, that is what the entry should look like, unless you have other LAN stuff in there. If you do, you know what you are doing better than I do. (All of this info is from the kind help offered by Mark Dodel. At this point I had little faith in the D-Link card which was part of my problem. Have faith, it works.) Select **OK**, then **Close**, then **Exit**. Make sure that **Update CONFIG.SYS** is checked and the correct boot drive is selected. Select **Exit**. Then shutdown and reboot.

TCP/IP settings

Now it is time to set up TCP/IP's settings notebook. Here is where the terminology got to me. The second Web site (listed below) provides good information, including screen shots, which should help you.

If you are just installing the cable modem, there is no need to check IP forwarding. Cox uses DHCP, which automatically configures your IP address. Don't make it more complex than it should be. If your cable provider requires you to configure your IP address manually, be sure to do so, or the cable modem won't work.

Again, the second URL gives info on changing the file `x:\mptn\etc\dhcpcd.cfg`. Open the file in a text editor. In the option section add the line just as shown, using your host name, including the quotes. Delete the `#Host` part if you want; it is just a comment. In the documentation that Cox gives you (the yellow sheet), you will find your host name listed as DNS NAME. Since the modem will have been installed by Cox under Windows, you can go into Windows, click control panel and network, and you should be at the identification tab. The entry in the computer name box is the host name. That is all you need.

The info also said to add the addresses of the two DNS servers to the `x:\tcpip\dos\etc\resolv` file. When I checked mine, the information was already there.

Shut down and reboot.

As OS/2 loads, it displays information about your NIC and then seems to take an eternity to move on. That's because DHCP is chatting with Cox's servers and getting information about your IP settings. If it fails, it will let you know. Just to check it, run DHCPMON, which is in the system setup folder; you'll see connection info.

I run Netscape, Post Road Mailer, and ProNews/2. I didn't have to change anything in Netscape. In Post Road Mailer, I created a new inbasket (I still have my dialup ISP) and changed the settings. In ProNews, I think I pointed it at Cox's news server. All three programs use my existing connection, so nothing else had to change.

You should be able to take it from here. It takes longer to write it than do it, once you know where you are going.

By the way, I found three Web sources that were useful, in varying degrees: `sprk.com/blackdeath/cablemodem.Html`, `members.home.net/bhubley/cableintro.html`, and `www.os2ezine/v2n10/cable.htm`. The last site might have been most useful, but my system wouldn't cooperate. After installing the stuff it wouldn't finish up properly. The first Web site listed above is closest to being what I did. The second one has some nice screen shots, especially for the TCP/IP setup.

WarpUp review

by Richard Knapp

review

When I saw Indelible Blue Inc.'s ad for the new Warp Up! CD, I felt adventurous. I ordered the subscription edition, which includes quarterly updates. I took notes while I applied the update, thinking they'd be useful for next time. I also noted how long the process took.

Setup

My first encounter with Warp Up! was to update a WinBook via a shared CD.

When WarpUp starts, it checks the system and does some version comparision for various components. Web Explorer starts, displaying information and warnings. From the Web pages it displays, you can check the system status, read more about each item, or start the installation.

You cannot do a "mass" system update. I wanted to select items to update and let the system apply appropriate fixes in the correct order. Instead, I had to apply an update for each item; some required reboots upon completion. The single item install makes sure each fix is correctly applied, but if you have to update many workstations, you'll have your work cut out for you.

Starting the clock

9:15 I began by bringing the system from the base OS (no fix packs) to FixPack 10 (FP 10). The installation started in the background (FSERVICE.EXE could be selected from the task list) and seemed to work quite well for a while. However, I lost my network CD connection. I took advantage of that "break" to get Process Commander out of the way, shut off stuff in the Startup Folder, and try again.

10:00 The restarted process correctly detected the previous attempt and picked up almost where it left off. The process chugged along for a while and a song announced its completion.

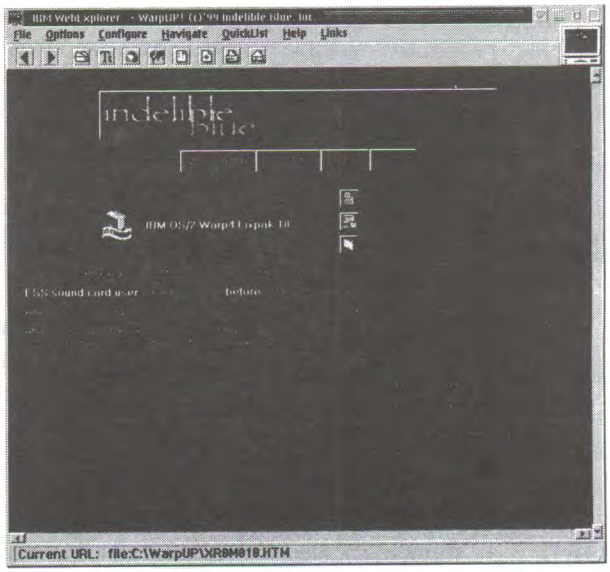
10:15 The reboot and deferred service updates went fine, but the system stuck on the blue OS/2 welcome screen. I ended up rebooting and using Alt-F2 to watch drivers load. When it got to IBM1S506.ADD, it "froze." Apparently, this still can be a problem in certain systems. Per the documentation (/driver/idedasd), I disabled busmastering by adding `/A:0 /!BM /A:1 /!BM` to the device line, but to no avail. I tried the new DASD drivers (on the CD) but they didn't work either. I copied the drivers from another system with FP8, and life returned to normal. I left the busmaster options in... just in case.

11:00 Next, I applied MPTS and Peer FPs. I encountered no trouble during either of these updates.

WarpUp! Client CD
$19.00, 1 year $60.00
Client/Server CD $30, $100/year

Indelible Blue, Inc

www.indelible-blue.com



11:15 The TCP/IP version fixes weren't clear, so I tried to compare the various versions. I wasn't sure if I could install 4.1 fixes over my original stack so I left it as is. The documentation says 4.1 requires MTPS WR08610 (v5.4—32-bit). WarpUp installs WR08424 (v5.12—16-bit) by default. I later found the other version in the "Index" section.

11:30 Next was Netscape. I needed that so I could install Feature Install so I could install Java 1.1.7a. Whew! There must be a better way to do this than require the "Creature" Install program just to update the JVM and JDK. It's not nearly this difficult on other platforms.

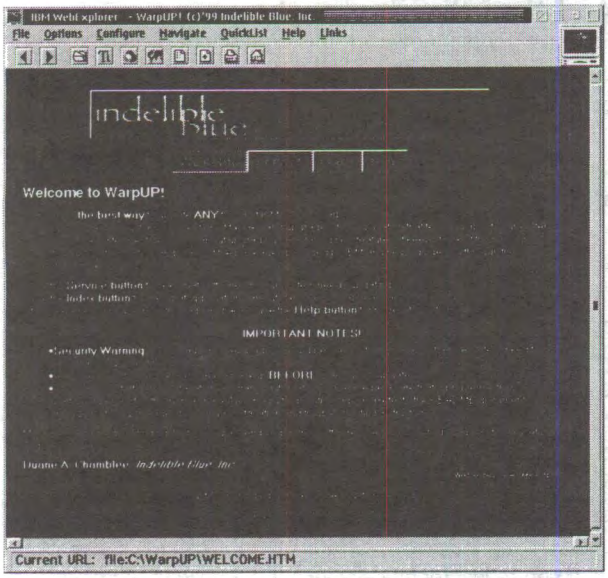
Both Netscape and Feature Install installed fine. A reboot was required. I selected the Java update, and Netscape started. I choose Advanced options, installed the JRE, JDK, ICAT debugger, and the documentation, then started the install. Installation went smoothly.

11:55 Unfortunately, the Java install does not provide an option to remove existing versions of Java. I used the Install Object–Inventory (under OS/2, Install, Installed Features) to remove the old 1.02 version.

12:10 After browsing around for a while, I decided to upgrade the MTPS to use the 32-bit engine. I went to the WarpUp Index page and selected the newer version. The install went smoothly and finished in a couple minutes.

Other thoughts

WarpUp also has drivers (like DASD and ESS), Apache, IBM GoServe, Acrobat Reader, the NetWare 2.12 Requester, and the latest EMX runtimes.



The WarpUp program object created does not "Close Window on Exit." You may want to change that, or the window will wait for you to close it.

Overall, the process is pretty painless. Any trouble I encountered was because of what I did, not what Indelible Blue did. I liked using Web Explorer, but I also like BMT Micro's interface, too. WebEx's interface provides a good bit of information and is dynamic. However, for changes to be recognized, the program must be restarted, so the scanning program can check the system and new HTML files built. On the "Service" page, items already installed are "removed" from the list of options. On the "Index" page, text at the end of the line for each item indicate the status of that item (Installed for completed, Install for not completed, Option for optional updates). For someone like me that has been known to forget what I've done, that's a helpful feature.

Richard Knapp is a software development consultant in Dallas. You can reach him at richfk@ibm.net.

So you wanna be a Webmaster?

Choosing an OS/2 Web server

by John Sandercock <sanderc@ibm.net>

review

Are you yearning to become a Webmaster? If you use OS/2, you're in luck. In addition to the Lotus Domino Go Webserver, included with OS/2 Warp Server for e-business, at least three Web servers are available for OS/2. Even better, they're all free. All you need is a copy of OS/2 Warp with TCP/IP installed, and a connection to the Internet.

Web/2

The simplest solution is a tiny program called web/2. Download web2.zip, and unzip it into its own directory. Copy your HTML files into the HTML subdirectory, and run web.exe. Web/2 sets itself up on port 80, the default httpd port, and begins serving Web pages. You can customize web/2 a little by running setup, but mostly what you see is what you get.

The author of web/2, who calls himself dink, is proud to say that his program is native OS/2, not a port. That means you don't need to download anything else to run it.

Web/2 logs all requests by default. You can read the log while the program is running—even in a telnet session, if you can't get to the server.

Web/2 is not intended to be a secure Web server. Files you copy to the Web space are open to the public. However, if you want, you can prohibit directory browsing through the setup program.

GoServe

A second solution, which is a bit more sophisticated, is GoServe, from IBM's Mike Cowlishaw, who is better known as the author of REXX. GoServe sets itself up just as easily as web/2, but it is more customizable.

First, you define the Web space. Specify a directory in the DataDir tab in the Options notebook.

GoServe has quite a few features for people interested in tracking usage. GoServe can be further customized if you are not afraid to edit REXX files. It comes with a default filter, called gofilter.80. It runs just fine out of the box, but can also be modified; for instance, you can limit access to certain directories in the Web space.

GoServe seemed to run faster than web/2 on my server, but I wasn't holding a stopwatch.

Another option for working with GoServe (which I have not tried) is SRE-http from Daniel Hellerstein. SRE-http is described by its author as a "filter" for GoServe, and it gives you access to the more sophisticated aspects of GoServe through a Web browser. It has three modes: simple, intermediate, and expert.

And then there's Apache

For most people, however, the Web server is Apache. It is certainly the best known, and is the only one about which people write books.

Like web/2 and GoServe, Apache is free to users. Unlike them, Apache is an industry. If there is such a thing as a "killer app" for Linux, Apache may be it.

However, you don't need Linux or any other flavor of Unix to run Apache. All you need is a suitable multitasking operating system. (Apparently, that even includes Windows 95.) You can download the source code from www.apache.org and compile it yourself, using an OS/2 compiler. The CD-ROM which comes with Ben and Peter Laurie's *Apache: The Definitive Guide* (aka "the O'Reilly book" or "the Appaloosa book") has instructions and tools for doing just that. Virginia Hetrick, a fellow POSSI member, says C Set ++ works just fine for compiling the source code.

If you're less technically inclined, however, an easier route is a precompiled version of Apache 1.3.6 (by Brian Havard). It comes with the server edition of the WarpUp CD from Indelible Blue. You also need the EMX runtime, which is also on the CD, and is also available from Hobbes as emxrt.zip.

Apache is a very powerful and customizable program that can run any number of Web sites (called "virtual hosts") from a single server. The key to unlocking Apache is the config file (httpd.conf) which contains most, if not all, of the directions you need to give it. The placement of those commands, called directives, determines whether they work at the server level, on only a particular virtual host, or to only a given directory within a host's Web space. Editing the config file is a little like coding HTML, because directives which apply only to certain virtual hosts or directories go inside tags like `<VirtualHost> </VirtualHost>` or `<Directory> </Directory>`.

The config file distributed with the OS/2 binary contains a great deal of commentary. That commentary may be all you need to configure Apache. I found that I needed to compare what I read in the config file with a book on Apache to understand the program. Your mileage may vary.

There's also a configuration utility for Apache OS/2 users; see the description in the "New and Improved" article, elsewhere in this issue.

I've found that setting up the Web server is the easy part. The real work is on the content side, because *that* job is never finished.

Warp Expo West announced for September

press release

Warp Expo West, "a Warpfest of OS/2 excitement," has been announced by the Southern California OS/2 User Group (SCOUG).

"SCOUG has already sponsored two successful end-of-summer OS/2 events," said Terry Warren, President of SCOUG, "We'll continue this tradition with Warp Expo West this coming September. Accordingly, SCOUG has formed a Warp Expo West Committee to plan this year's great event."

The Warp Expo West Committee is headed by Rollin White, a founding member of SCOUG and experienced OS/2 showman. White had a major involvement in the first Warpstock, has led two prior SCOUG-sponsored OS/2 Show Committees, and is a member of the Warpstock Steering Committee.

"We've got a great, experienced team in place to produce this West Coast show," said White, "and Warp Expo West will be a premiere showcase for the Warp OS/2 Operating System."

The Warp Expo West team includes Steve Schiffman, an experienced show planner. "I'm negotiating right now for some of the finest show facilities in Southern California," said Schiffman. "We want every Warp Expo West guest to have the ultimate OS/2 experience. Every aspect will be perfectly planned—lecture facilities, vendor hall, software demonstrations, topical meeting rooms, food service, transportation and parking facilities, even out-of-town guest accomodations."

Carla Hanzlik, Editor of the monthly publication *OS/2 For You*, published by SCOUG, is also one of the Warp Expo West planners. "In the past we've done great exhibits (like The OS/2 Museum) and diversions (like The OS/2 Carnival Games). This year, we'll have new surprises for the guests," said Hanzlik.

"OS/2 is still riding a crest of excitement as the highest-technology desktop operating system on the market today," continued Warren. "We welcome everyone to join us again this year for our Warpfest Of OS/2 Excitement—Warp Expo West."

New and improved

compiled by Esther Schindler

With twenty—count 'em 20—new or updated OS/2 applications to tell you about, this month, you'll surely find something that will appeal to you.

As always, I urge you to share the knowledge you gain as you try out these applications by writing a review for extended attributes. Under most circumstances, reviewers get to keep the software they write about (or get a registered version, in the case of shareware), so I encourage you to contact Craig Greenwood, POSSI's review chair, at `reviews@possi.org`. He can explain what's expected of you, and reassure you that writing a software review is much easier than the last book report you gave back in your high school English class. (For one thing, we promise not to throw spitballs.)

ServerConfig

Apache is one of the world's most popular Web servers, and it's fully supported under OS/2. InetPowerServer (IPS) is a very popular OS/2 ftp and email server. ServerConfig/2 is a free GUI configuration utility that helps administrators manage and configure both these applications, using an easy GUI with full online help.

With ServerConfig/2, you can configure any Apache Web server remotely via TCP/IP. It includes a daemon witten in C code, so you can compile it under OS/2, Linux, or a Unix system—any OS with gcc or a compatible compiler!

ServerConfig/2 is meant for users who don't want to edit text configurations by hand. Beginners will appreciate it, because ServerConfig/2 has full on-line help on everything, including examples.

You can find the latest version at `www.ecs.soton.ac.uk/~dm898/sc`. Contact the author at `sehh@altered.com`.

ReplText/2

ReplText/2 is a simple command line string replacing utility by Robert Schroeder, `rob@schroeder.net`. You can find it at Hobbes, in `/pub/os2/util/misc`, or at `http://home.ivm.de/~schroeder/os2`.

ERIC

Benjamin Armstrong (`benjamin@bacchus.com.au`) created a shareware edition of ERIC—a puzzle solving game—for OS/2. Registration is $6.50. You can find it at `www.bacchus.com.au/~ben`.

Macintosh emulator for OS/2

Erico Mendonca, (`slaughter@malaconet.org`) reports finding an OS/2 port of vMac, the Virtual Macintosh Emulator, at `www.vmac.org`. It can run up to System 7.5, and requires a valid ROM file. A utility for downloading a ROM file from a real Mac is also available at the site. (Instructions are included for making a legal copy.)

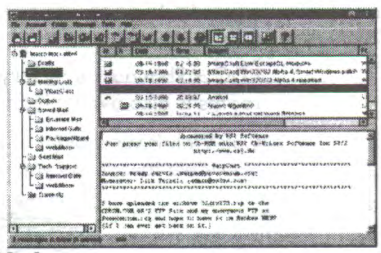
Emerald Mail 1.20

MaccaSoft released Emerald Mail version 1.20. Emerald Mail is a full featured email client and news reader written in Java, so it's compatible with virtually every operating system that supports a Java virtual machine 1.1 or higher, including OS/2, Windows, and Linux.

The integration of an email client and a news reader makes Emerald Mail a solution for both office and home users. The support of IMAP4 servers, as well as standard POP3 and SMTP servers, allows you to access your corporate mail from anywhere in the world.

Emerald Mail supports multiple accounts, multiple nested folders, multiple address books, and multiple identities. It has support for POP3, IMAP4, SMTP, and NNTP (news) servers, and it's MIME compliant.

Emerald Mail is shareware ($45.00). You can download a fully functional evaluation version from `www.maccasoft.com`.



WarpNote

Tired of those yellow notes that won't stick on your monitor? Here are sticky notes that remain where you put them: on your OS/2 desktop. WarpNote gives you easy access to little yellow windows, where you can write down anything you want. The program is simple and easy to use and consumes as little memory as possible. Each and any feature can be configured and adjusted to the user's needs. Extensive scripting capabilities give you unlimited possibilities.

This release includes a Blowfish encryption interface, which enables you to easily encrypt notes that contain private data, such as IDs and passwords. Program data can now be kept in any directory. Further enhancements have been made in notes handling, especially regarding keyboard usage and quick notes access.

You can find WarpNote at BMT Micro or www.geocities .com/rodeodrive/2048/warpnote.html. It costs $14.

X-IT

X-it 2.6 is a desktop enhancer. It gives you a single click to many common actions that normally require a large number of mouse movements and clicking. X-it was nominated as Most Innovative New Product at the 1997 Shareware Industry Awards (www.sic.org).

New features include quick copy/paste for DOS windows, mouse button configuration, snap mouse to window, and auto menu selection. There's more, too—X-it has a bunch of features, all of which are likely to grow on you. Check this one out!

There's no upgrade charge when updating from a previous 2.x version, and current settings are preserved. X-it is $25. CIS SWREG: #11263. Contact CodeSmith Software at www.bmtmicro.com/catalog/xit/xit.html.

Moneydance

Moneydance 2.0.1 is a personal finance manager written completely in Java. It includes transaction auto-completion, graphing, reporting, a reconciliation tool, running cleared vs uncleared balances, transaction sorting, double-entry, scheduled transactions, multiple currencies, multiple accounts and more. It's now carried at BMT Micro; the price is $25. You can contact the developer at http://seanreilly.com/java/moneydance.

DRECKBAK

DRECKBAK (who came up with that name?!) is an OS/2 hard disk Backup/Restore utility suite. It requires no expensive hardware to back up your system to removable media or to your hard drive. DRECKBAK promises easy access to your backups from any program able to handle a ZIP file. It's easy to set up and includes freeware utilities and a scheduler. This program requires Info-Zip's Zip and Unzip tools. DRECKBAK is $25; find it at http://weismer.virtualave.net/DreckBak.html.

WarpSeeMe/2 status

WarpSeeMe/2 is a volunteer project to create video conferencing software for OS/2. Work is underway; if you want to participate, visit www.warpseeme.com.

Updated Dadaware' Embellish

Dadaware's Embellish is a graphics application available for OS/2 and Windows 9x. Dadaware recently updated the OS/2 version to 2.02b. You can find it at www.dadaware.com/download_area/download_area.html.

FTE/2

FTE is a free VIO editor for OS/2, Linux, and 32-bit Windows. A new compiled version for OS/2 is at http://users.interact.net.au/~pmiy/ftpindex.html. First time users have to install www.kiss.uni-lj.si/~k4fr0235/fte/dist/fteo46b5.zip first.

WPTOOLS and ASSOEDIT

Henk Kelder (hkelder@capgemini.nl) updated both WPTOOLS and ASSOEDIT to overcome a problem reported by a user. Also, two new programs have been added to WPTOOLS: DEFASSOC, a program to manipulate associations from the command line, and GETOBJ, which queries object settings from the command line. Both are available from www.os2ss.com/information/kelder.

HOUSE/290

HOUSE/2, a shareware program available for the CM11A controller by X-10, has been expanded to support the popular CP290 home automation controller. The new version is called HOUSE/290.

With X-10 devices, you can automate your home. X-10 devices can turn on your lights and appliances automatically, control drapes and thermostats, and monitor events from motion sensors and input modules. X-10 controllers connect to your computer's serial port and act as timing devices for the modules. X-10 modules simply plug into your existing house wiring; transmission

occurs through the wiring itself—no rewiring is necessary.

HOUSE/2 and HOUSE/290 are OS/2 applications designed to program and control the X-10 computer interfaces. These programs are designed to interactively control the X-10 modules from your desktop, or you can pre-program the controllers and run timed events completely stand-alone.

HOUSE/290 is shareware. You can register HOUSE/2 and HOUSE/290 separately for $20 each, or register HOUSE/2 for $35 and receive HOUSE/290 for free.

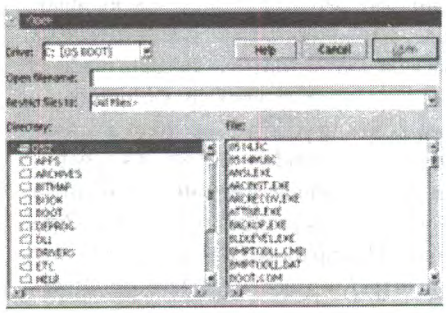
The software is available at BMT Micro, or visit the Warped Code Cellar at `http://home.att.net/~ASchw`.

Dialog Enhancer '99

Dialog Enhancer '99 is the latest generation of the desktop update utility. Dialog Enhancer provides a simple but highly effective update to your desktop and third party applications by neatly re-sizing dialogs, adding new icons, and changing the font used to WarpSans. This version includes a color manager utility that allows you change hard coded control colors, and additional third party support for Netscape Communicator and Southsoft PM Mail.

Dialog Enhancer does not make use of desktop hooks or background processes to modify the system at runtime. Instead, it makes perfectly safe resource modifications to files that it recognizes. The result is indifferent CPU overhead, increased RAM due to removal of redundant resources, and identical system stability.

Dialog Enhancer '99 is shareware, and costs $20 to register. To check out Dialog Enhancer '99, visit `www-student.lboro.ac.uk/~mcrsc/ostrans.html`.



IBM's ObjectREXX updated

A new version of Object REXX for OS/2 Warp 3 is available for download from `http://service.software.ibm.com/dl/rexx/orexx30-d`. (Object REXX for OS/2 Warp 4 updates are included in the Warp 4 FixPaks.) Among the enhancements are new REXXUTIL functions: SysDumpVariables, SysGetFileDateTime, SysSetFileDateTime, SysStemCopy, SysStemDelete, SysStemInsert, SysStemSort, SysUtilVersion, and SysVersion. These new REXXUTIL functions are not documented in the online help (REXX.INF). Also, if the first line contains a Unix style shell definition starting with #! it will be ignored (seen as a comment).

Open Source: Fast Editor

FED is a small text mode editor. FED permits unlimited open files, full undo, and syntax highlighting for C++, REXX, HTML, ASM, Makefiles, Pascal, and Mail. It has CUA style blocks, rectangular blocks, go to line/column, Indent / unindent features, and search/replace—and plenty more. FED 0.2.5 is released with complete sources, under a BSD-like license. You can find it at `www.naverex.kiev.ua/~evsi`.

HomePage Publisher 2.1

HomePage Publisher (HPP) is an OS/2 WYSIWYG Web page design tool. HPP allows you to create or modify HTML pages. It has an integrated WYSIWYG HTML publisher and editor/browser.

HomePage Publisher Version 2.1 includes frames support, DBCS, Publishing, Drag/Drop, Undo/Redo, toolbar designer, dictionary, and more. Check it out and download a free trial version from `www.btsoftware.com/os2/hpp.htm`. Prices range from $49.00 for the entry version to $95.00 for the Pro version, which support frames.

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Phoenix OS/2 Society

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03/2000